



**CERTIFICATE OF MAILING**

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David H. Brinkman Reg. No. 40,532

531 Rec'd PCT/PT

11 OCT 2001

#11  
PATENT

Applicants: Kuhl et al.  
International Application No.: PCT/EP98/06225, Filed September 30, 1998  
Serial No.: 09/806,410  
Filed: September 5, 2001  
Examiner: Unknown  
Art Unit: 3662  
Confirmation No.: 8732  
Title: **DEPTH MEASUREMENT AND DEPTH CONTROL  
OR AUTOMATIC DEPTH CONTROL FOR A  
HOLLOW TO BE PRODUCED BY A LASER  
PROCESSING DEVICE**  
Atty Docket: BEET-03

Cincinnati, Ohio 45202

October 9, 2001

Assistant Commissioner for Patents  
Office of Initial Patent Examination  
Customer Service Center  
Washington, D.C. 20231

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TECHNOLOGY CENTER 1700

Sir:

**REQUEST FOR CORRECTED FILING RECEIPT**

Attached is a copy of the Official Filing Receipt received from the PTO in the above-identified application for which issuance of a corrected filing receipt is respectfully requested.

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Several errors were noted in the Filing Receipt issued in connection with the above-identified application:


1. The total number of claims is listed incorrectly as being "1" rather than the correct number of "26" claims. Applicants filed a Preliminary Amendment with the application on March 29, 2001 canceling claims 1-26 and adding new claims 27-52.
2. The number of independent claims is listed incorrectly as being "1" rather than the correct number of "4", i.e., independent claims 27, 30, 44 and 47.
3. The title is listed incorrectly as being "Calibrating a depth sensor of a laser-processing device and producing a die layer by layer using variable programming" rather than the correct title of "Depth measurement and depth control or automatic depth control for a hollow to be produced by a laser processing device".
4. The Domestic Priority data as claimed by applicant is incorrectly listed as being "THIS APPLICATION IS A 371 OF PCT/EP98/06225 09/30/1999" rather than the correct information of "THIS APPLICATION IS A 371 OF PCT/EP98/06225 09/30/1998".

It is therefore respectfully requested that a new corrected filing receipt be issued to reflect corrections in (i) the total number of claims filed; (ii) the total number of independent claims, (iii) the title; and (iv) the domestic priority data as claimed by applicant.

It is believed that no fees are due in connection with this correction,  
however, the Commissioner is hereby authorized to charge any additional fees  
which may be required, or credit any overpayment to Account No. 23-3000.

Respectfully submitted,

WOOD, HERRON & EVANS, L.L.P.

BY   
David H. Brickman  
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## UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATENTS  
UNITED STATES PATENT AND TRADEMARK OFFICE  
WASHINGTON, D.C. 20231  
www.uspto.gov

APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO.	DRAWINGS	TOT CLAIMS	IND CLAIMS
09/806,410	09/05/2001	3662	1178	BEET-03	7	1	1

CONFIRMATION NO. 8732

## FILING RECEIPT



\*OC000000006584614\*

David H Brinkman  
Wood Herron & Evans  
2700 Carew Tower  
441 Vine Street  
Cincinnati, OH 45202-2917



Date Mailed: 09/20/2001

Receipt is acknowledged of this nonprovisional Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Customer Service Center. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

## Applicant(s)

Michael Kuhl, Fussen, GERMANY;  
Peter Wrba, Unterthingau, GERMANY;  
Peter Hildebrand, Nesselwang, GERMANY;  
Martin Reisacher, Kempten, GERMANY;

## Domestic Priority data as claimed by applicant

THIS APPLICATION IS A 371 OF PCT/EP98/06225 09/30/1999

## Foreign Applications

Projected Publication Date: N/A

Non-Publication Request: No

Early Publication Request: No

## Title

Calibrating a depth sensor of a laser-processing device and producing a die layer by layer using variable programming

Preliminary Class

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TC 1700

356

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Data entry by : ORDENEZ, MARTA

Team : OIPE

Date: 09/20/2001

11/11/01

**LICENSE FOR FOREIGN FILING UNDER  
Title 35, United States Code, Section 184  
Title 37, Code of Federal Regulations, 5.11 & 5.15**

**GRANTED**

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Office of Export Administration, Department of Commerce (15 CFR 370.10 (j)); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

**NOT GRANTED**

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

**PLEASE NOTE the following information about the Filing Receipt:**

- The articles such as "a," "an" and "the" are not included as the first words in the title of an application. They are considered to be unnecessary to the understanding of the title.
- The words "new," "improved," "improvements in" or "relating to" are not included as first words in the title of an application because a patent application, by nature, is a new idea or improvement.
- The title may be truncated if it consists of more than 500 characters (letters and spaces combined).
- The docket number allows a maximum of 25 characters.
- If your application was submitted under 37 CFR 1.10, your filing date should be the "date in" found on the Express Mail label. If there is a discrepancy, you should submit a request for a corrected Filing Receipt along with a copy of the Express Mail label showing the "date in."
- The title is recorded in sentence case.

Any corrections that may need to be done to your Filing Receipt should be directed to:

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Office of Initial Patent Examination  
Customer Service Center  
Washington, DC 20231



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DEPTH MEASUREMENT AND DEPTH CONTROL OR AUTOMATIC DEPTH  
CONTROL FOR A HOLLOW TO BE PRODUCED BY A LASER PROCESSING  
DEVICE

The invention, in the most general sense, relates to the depth measurement and the depth control or automatic depth control of a hollow to be produced by a laser processing device.

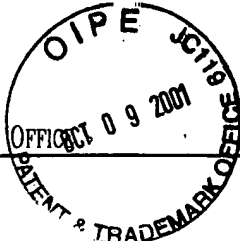
A depth measuring system is known from the DE OS 42 06 499. In this case an incoherent process light is analysed, for example by a triangulation method or by analysing the distance between different reflections of the light spot.

For representing the light spot on a sensor or a sensor array a lens is required. Since the light spot may be disposed on any position in the working area Bx, By, it has to be taken care that focusing is sufficiently accurate in all positions of the light spot in the working area of the laser processing device.

Conventional lenses have a spherical focal surface. Since the surface currently worked by the laser processing device, however, is generally not spherical, a slight defocusing will therefore always occur. So-called F $\theta$ -lenses are corrected so that they have a flat focal surface. However, this focal surface also is not completely plane so that defocusing may occur. Depending on the desired measuring accuracy such lack of definition may lead to an unacceptable loss of accuracy. The mentioned F $\theta$ -lenses enable measuring accuracies in the range of about 100  $\mu\text{m}$ . The inaccuracy of the focal plane of said F $\theta$ -lenses is also in this range. In modern laser processing devices, however, production accuracies of a few micrometers are obtainable or controllable. Then, however, correspondingly accurate measuring systems are also required which, in particular, should be about as accurate as the production accuracy. The required accuracies can not be obtained with the measuring system known from the DE 42 06 499. This is particularly true when the measuring system



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Commissioner for Patents  
United States Patent and Trademark Office  
Washington, D.C. 20231  
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In re Application of  
Kuhl et al  
Application No.: 09/806,410  
PCT No.: PCT/EP98/06225  
Int. Filing Date: 30 September 1998  
Priority Date: None  
Attorney's Docket No.: BEET-03  
For: Depth Measurement and Depth Control Or  
Automatic Depth Control For A Hollow To Be Produced  
By A Laser Procession Device

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DECISION ON  
PETITION  
UNDER 37 CFR 1.181

This decision is in response to the "Request For Correction Of Notification Of Acceptance Of Application Under 35 USC §371," which is being treated as a petition under 37 CFR 1.181, requesting that the filing date of 29 March 2001 be accorded the above national application for the receipt of the preliminary amendment and the information disclosure statement.

#### DISCUSSION

On 29 March 2001, applicants filed a transmittal letter for entry into the national stage in the United States which was accompanied by, inter alia, the requisite basic national fee as required by 35 U.S.C. 371(c)(1), copy of the international application, unsigned declaration and power of attorney, preliminary amendment, information disclosure statement, and a postcard return. Applicant, however, did not satisfy the requirement set forth by 35 U.S.C. 371(c)(4) because no executed Declaration or Oath was provided with the transmittal letter.

On 25 April 2001, the United States Designated/Elected Office erroneously mailed a Notification of Acceptance (Form PCT/DO/EO/903) because at the time of mailing applicants had not submitted an oath or a declaration. This form also incorrectly informed the applicant that the Preliminary amendment and Information Disclosure have a filing date of 30 March 2001, which is an error based on the USPTO stamped postcard.

The correct filing date for the Preliminary amendment and Information Disclosure is a filing date of 29 March 2001.

The postcard lists the items submitted on 29 March 2001.



MPEP 503 provides:

A postcard receipt which itemizes and properly identifies the papers which are being filed serves as *prima facie* evidence of receipt in the PTO of all the items listed thereon on the date stamped thereon by the PTO.

Applicant's postcard is accepted as *prima facie* that the Preliminary amendment and Information Disclosure were deposited with the Patent and Trademark Office on 29 March 2001.

Because the United States Designated/Elected Office erroneously mailed a Notification of Acceptance (Form PCT/DO/EO/903) since at the time of mailing applicants had not submitted an oath or a declaration, the Notification of Acceptance (Form PCT/DO/EO/903) mailed on 25 April 2001 is VACATED with the mailing of this decision.

#### DECISION

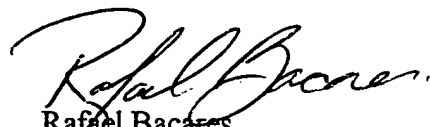
The petition under 37 CFR 1.181 is GRANTED in that the Preliminary amendment and Information Disclosure were deposited with the Patent and Trademark Office on 29 March 2001. However, the Notification of Acceptance (Form PCT/DO/EO/903) mailed on 25 April 2001 is VACATED.

This application is being returned to the United States Designated/Elected Office (DO/EO/US) for continued processing under 35 U.S.C. 371 and for issuing a PCT/EO/DO/ form 905 (Notification of missing requirements) to inform applicant that an executed Declaration or Oath is missing.

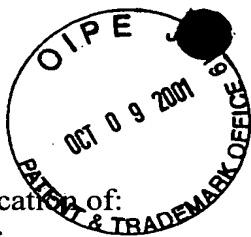
Any further correspondence with respect to this matter should be addressed to the Commissioner for Patents, Office of PCT Legal Administration, Box PCT, Washington, D.C. 20231, with the contents of the letter marked to the attention of the PCT Legal Office.



Leonard E. Smith  
PCT Legal Examiner  
PCT Legal Office



Rafael Bacares  
PCT Legal Examiner  
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533 Rec'd PCT/PTO 09 OCT 2001

EXPRESS MAIL NO. EL915035371US  
PATENT

1725

In re application of:

Serial No.:

Filed:

Priority Date:

Group Art Unit:

For:

Michael Kuhl et al.

09/806,410

September 5, 2001

September 30, 1998

3662

DEPTH MEASUREMENT AND DEPTH CONTROL  
OR AUTOMATIC DEPTH CONTROL FOR A  
HOLLOW TO BE PRODUCED BY A LASER  
PROCESSING DEVICE

Attorney Docket:

BEET-03

Cincinnati, Ohio 45202

October 9, 2001

Assistant Commissioner for Patents

BOX PCT

Washington, D.C. 20231

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Sir:

CERTIFICATE OF EXPRESS MAILING

**Enclosures:** Request for Correction of Notification of Acceptance of Application Under 35 U.S.C. § 371; Copy of Notification of Acceptance of Application Under 35 U.S.C. § 371; Copy of Notification of Acceptance of Application Under 35 U.S.C. § 371 with Corrections; Submission of the English Translation of the International Preliminary Examination Report date-stamped return postcard from PTO; Copy of the Decision of the Office of PCT Legal Administration; Express Mail Certificate No. EL915035371US; and Return Postcard

"Express Mail" Mailing Label No. EL915035371US

Date of Deposit: October 9, 2001

I HEREBY CERTIFY THAT THIS PAPER OR FEE IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE "EXPRESS MAIL POST OFFICE TO ADDRESSEE" SERVICE UNDER 37 CFR 1.10 ON THE DATE INDICATED ABOVE AND IS ADDRESSED TO ASSISTANT COMMISSIONER FOR PATENTS, BOX PCT, WASHINGTON, D.C. 20231

Ryan Cummins

Name of Person Mailing Paper or Fee

*Ryan Cummins*

Signature of Person Mailing Paper or Fee


 FORM PTO-1390  
(REV 11-98)

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

**TRANSMITTAL LETTER TO THE UNITED STATES  
DESIGNATED/ELECTED OFFICE (DO/EO/US)  
CONCERNING A FILING UNDER 35 U.S.C. 371**

ATTORNEY'S DOCKET NUMBER

BEET-03

U.S. APPLICATION NO. (If known, see 37 CFR 1.5)

INTERNATIONAL APPLICATION NO.  
PCT/EP98/06225INTERNATIONAL FILING DATE  
September 30, 1998PRIORITY DATE CLAIMED  
September 30, 1998

**TITLE OF INVENTION** Depth Measurement and Depth Control Or Automatic Depth Control  
For A Hollow To Be Produced By A Laser Processing Device

**APPLICANT(S) FOR DO/EO/US**  
Michael Kuhl et al.

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☒ This express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1).
4. ☒ A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.
5. ☒ A copy of the International Application as filed (35 U.S.C. 371(c)(2))
  - a. ☒ is transmitted herewith (required only if not transmitted by the International Bureau).
  - b. ☒ has been transmitted by the International Bureau.
  - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☒ A translation of the International Application into English (35 U.S.C. 371(c)(2)).
7. ☐ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))
  - a. ☐ are transmitted herewith (required only if not transmitted by the International Bureau).
  - b. ☐ have been transmitted by the International Bureau.
  - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
  - d. ☐ have not been made and will not be made.
8. ☐ A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10. ☒ A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11. to 16. below concern document(s) or information included:

11. ☒ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. ☒ A **FIRST** preliminary amendment.  
☐ A **SECOND** or **SUBSEQUENT** preliminary amendment.
14. ☐ A substitute specification.
15. ☐ A change of power of attorney and/or address letter.
16. ☒ Other items or information:
  - Copy of Form PCT/IB/308 International Application to the Designated Offices
  - Copy of Front Page of Published Application WO 00/19167
  - Copy of Form PCT/ISA/220 International Search Report with Three (3) References
  - Copy of Submission of March 6, 2001 to WIPO
  - Formblatt PCT/RO/101
  - Express Mail Cert. No. EL725699477US
  - Return Postcard

40,532

JC17 Rec'd PCT/PTO 12 JUN 2001

Please place the official stamp of the Patent and Trademark Office on this card and return it to constitute acknowledgment/receipt of the document(s) listed below by the Patent and Trademark Office on the date stamped.

Application for:

DEPTH MEASUREMENT AND DEPTH  
CONTROL OR AUTOMATIC DEPTH  
CONTROL FOR A HOLLOW TO BE  
PRODUCED BY A LASER PROCESSING  
DEVICE

Inventor(s):

Michael Kuhl et al.

Serial No.:

09/806,410

Filed:

March 29, 2001

Enclosures:

Submission of English Translation of  
International Preliminary Examination  
Report; Certificate of Express Mailing No.  
EL725699361US; and Return Postcard

David H. Brinkman, Esq. (Reg. No. 40,532)

Wood, Herron &amp; Evans, L.L.P.

Dated: June 12, 2001



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Please place the official stamp of the Patent and Trademark Office on this card and return it to constitute acknowledgment/receipt of the document(s) listed below by the Patent and Trademark Office on the date stamped.

Patent Application for: **DEPTH MEASUREMENT AND DEPTH CONTROL OR AUTOMATIC DEPTH CONTROL FOR A HOLLOW TO BE PRODUCED BY A LASER PROCESSING DEVICE**

International Application No. PCT/EP98/06225

Inventor(s): Michael Kuhl et al.

Filed: March 29, 2001

Enclosures: Transmittal Letter to the United States Designated/Elected Office (DO/EO/US) Concerning a Filing Under 35 U.S.C. 371; Copy of the International Application as Filed; Copy of the Translation of the International Application into English; Unsigned Declaration, Power of Attorney and Petition; Information Disclosure Statement With Five (5) References; Form PTO-1449; Copy of Form PCT/ISA/220 International Search Report with Three (3) References; Copy of First Page of Published Application WO 00/19167; Copy of Form PCT/IPEA/416 With Annexes and Translation of Annexes; Copy of Form PCT/IB/308; Copy of Submission of 3/6/01 to WIPO; Formblatt PCT/RO/101; Preliminary Amendment; A Check for \$1,048.00 for the Filing Fee; and Return Postcard.

David H. Brinkman, Esq. (Reg. No. 40,532)

Wood, Herron & Evans, L.L.P.

Dated: March 29, 2001



09/806410

JG13 Rec'd PCT/PTO 29 MAR 2001